

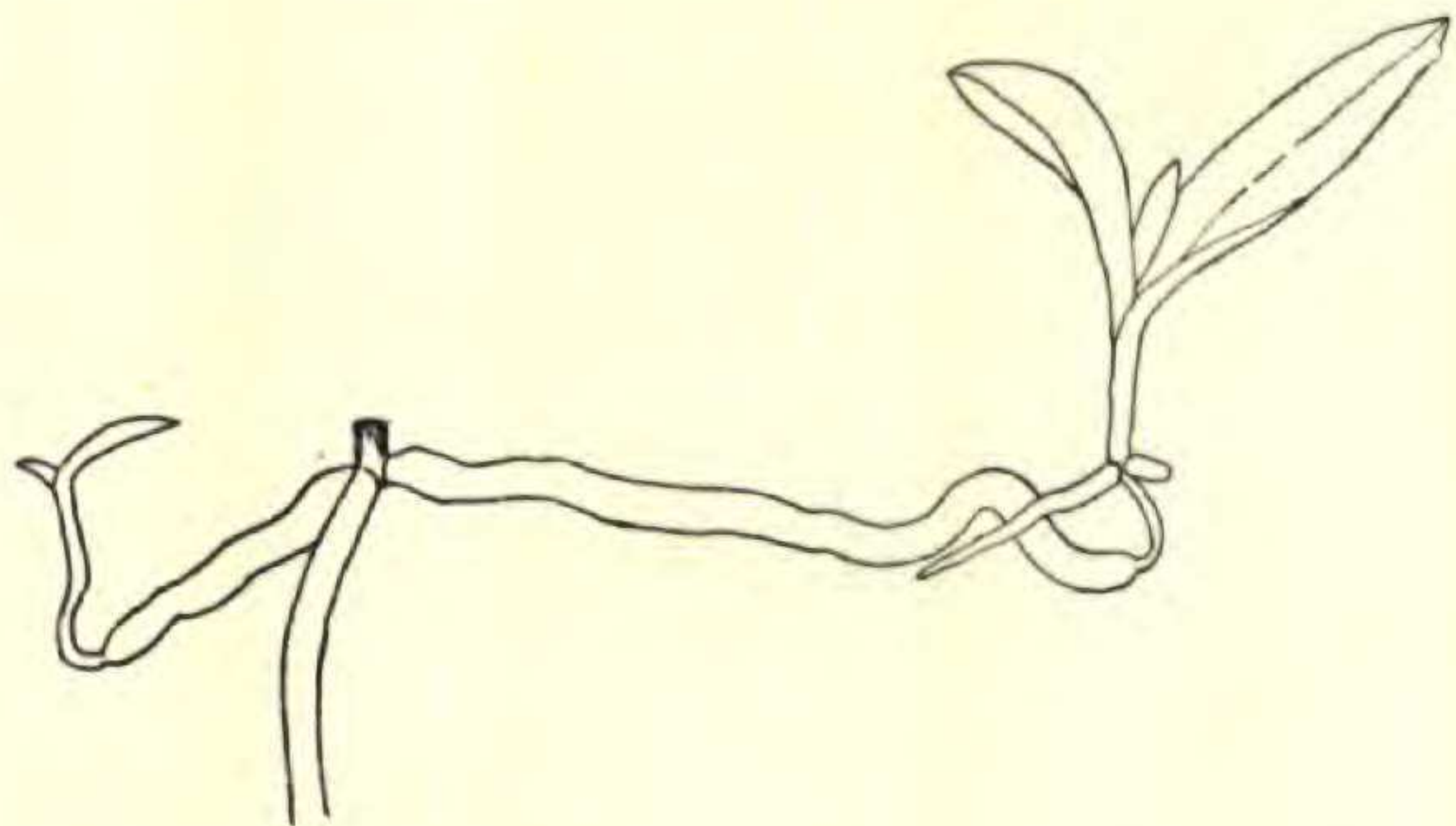
roseate) erect lobes: disc shallowly lobed: drupe dry, greenish-drab as in *C. umbellata*.—*C. umbellata*, Hook. Fl. Bor.-Am. ii, 139, in part, and t. 179 A, not Nutt.—QUEBEC, sandy alluvium of the Grand River, Gaspé County, July, 1903 (*G. H. Richards*), July 1, 1904 (*M. L. Fernald*); dry sandy woods, Tadousac, July 14, 1904 (*M. L. Fernald*), September 1, 1904 (*J. I. Collins & M. L. Fernald*): ONTARIO, woods near Belleville, May 22, 1878 (*J. Macoun*): MANITOBA, Lake Winnipeg Valley, 1857–1859 (*E. Bourgeau*): SASKATCHEWAN, Cumberland House (*Drummond*): ASSINIBOIA, Sand Hills, Moose Mountain Creek, June 6, 1883 (*J. M. Macoun*): WISCONSIN, St. Croix Falls, May, 1899 (*C. F. Baker*): NEBRASKA, Ponco, June 13, 1893 (*F. Clements*, no. 2519): MISSOURI, dry woods, St. Louis County, May 27, 1877, April 23, 1878 (*H. Eggert*): KANSAS, Independence, 1882 (*E. N. Plank*).

GRAY HERBARIUM.

## VEGETATIVE REPRODUCTION OF SPIRANTHES CERNUA.

JOHN GALENTINE HALL.

AMONG the orchids, in spite of the great amount of seed produced, we all know how difficult it is to find seedlings of our native species in their haunts. With this knowledge comes the question, how do they perpetuate themselves? In most cases the answer is quite plain. In *Arethusa* a new bulb is formed each year. This is also true of *Calopogon* and *Microstylis*. In *Habenaria* a specialized root is formed each year and gives rise to a new plant in the following spring. *Pogonia* has an extensive system of branching roots, which give off stems at various intervals. In *P. ophioglossoides* I have found roots six to eight feet long bearing ten to twenty stems upon them, and in *P. verticillata*



roots eighteen to twenty feet long giving rise to five or six separate stems. Here the new shoots arise as "adventitious" buds upon the upper side of the parent roots. The latter are doubtless enabled by this very trait of bud-bearing to continue their growth in length through several years and extend far beyond ordinary limits.

In *Spiranthes cernua* the method of vegetative reproduction is different, as will be seen from the following observations. Some years ago, when looking over in early spring some plants of this species that had been transplanted the year before, I noticed a number of small individuals that looked as if they might be seedlings. But on closer investigation they proved to be young plants of non-sexual growth, arising from the roots of the previous year and in most cases being developed from the tip of the root. At first I thought this might be a case of adaptation to the new conditions of growth in the garden after transplanting, but upon search in the field I found that a large number of cases showed the same phenomena, and I have recently found a similar development in *Neottia* referred to by Strasburger. It seems worth while therefore to call the attention of the readers of RHODORA to this noteworthy method of reproduction in one of our orchids. The accompanying sketch shows the manner of growth of the new plant. The most interesting aspect of the matter is that the tip of the root, which usually possesses a structure peculiar to itself, is here converted, as it appears directly into the growing point of a stem.

CAMBRIDGE, MASSACHUSETTS.

## A NEW JUNCUS OF THE GROUP POIOPHYLLI.

HARLEY HARRIS BARTLETT.

**Juncus monostichus**, sp. nov. — Erect, 3–5 dm. tall; culms compressed; leaves basal, from  $\frac{1}{2}$ – $\frac{3}{4}$  length of culm; blades 0.5–1.5 mm. broad, involute in drying; sheaths loose, mostly free, margins scarious; auricles produced, scarious; inflorescence 4–8 cm. long, much exceeded by its lowest bract, stramineous when mature; branches of inflorescence 1–2.5 cm. long, often incurved, bearing 3–9 conspicuously secund flowers; perianth-segments 4–5 mm. long,